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PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number (Optional)
		553-74
C. Spooner	Application Number	Filed
	10/619,556	July 16, 2003
	First Named Inventor	
	PARKER	
	Art Unit	Examiner
	2874	S. Pak
<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p>		
<p>05/02/2006 CNGUYEN2 00000031 141140 10619556 01 FC:1402 500.00 DA</p> <p>I am the <input type="checkbox"/> Applicant/Inventor <input type="checkbox"/> Assignee of record of the entire interest. See 37 C.F.R. § 3.71. Statement under 37 C.F.R. § 3.73(b) is enclosed. (Form PTO/SB/96) <input checked="" type="checkbox"/> Attorney or agent of record <u>27,393</u> (Reg. No.) <input type="checkbox"/> Attorney or agent acting under 37CFR 1.34. Registration number if acting under 37 C.F.R. § 1.34 _____</p> <p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.*</p> <p><input checked="" type="checkbox"/> *Total of 1 form/s are submitted.</p>		
<p>Signature Stanley C. Spooner</p> <p>Typed or printed name 703-816-4028 Requester's telephone number May 1, 2006 Date</p>		

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**STATEMENT OF ARGUMENTS IN SUPPORT OF
PRE-APPEAL BRIEF REQUEST FOR REVIEW**

The following listing of clear errors in the Examiner's rejection and his failure to identify essential elements necessary for a *prima facie* basis of rejection is responsive to the Final Rejection mailed December 1, 2005 (Paper No. 1105).

1. The Examiner fails to properly construe independent claims 1, 16, 19, 22, 26 and 30

Each of Applicant's independent claims 1, 16, 19, 22, 26 and 30 requires that the refractive index of the rods (n_{rods}) be greater than the refractive index of the core (n_{core}) ("wherein $n_{\text{rods}} - n_{\text{core}} > 0.1$ ") and in turn the refractive index of the core be greater than the refractive index of the cladding (n_{cladding}) (" $n_{\text{core}} > n_{\text{cladding}}$ "). While independent claims 1, 16 and 19 specify that $n_{\text{rods}} - n_{\text{core}} > 0.1$, all claims specify that n_{rods} is greater than n_{core} .

In the paragraph bridging pages 2 and 3 of the Final Rejection, the Examiner correctly alleges that Sigalas can be construed to suggest that n_{core} is greater than n_{cladding} . However, the Examiner does not appear to consider the further limitations in Applicants' independent claims, i.e., the requirement that n_{rods} be greater than n_{core} . The Examiner also appears to have ignored the claimed requirements that the "cladding layer [is] located adjacent said core layer" or that the "cladding layer sub-regions [are] contiguous with said core layer sub-regions."

Thus, Applicants' independent claims 1, 16, 19, 22, 26 and 30, require the same four structural interrelationships or method steps providing these structural interrelationships, i.e., (1) n_{rods} being greater than n_{core} by 0.1; (2) n_{core} being greater than n_{cladding} ; (3) "said cladding layer located adjacent said core layer" and (4) "said cladding layer sub-regions [holes] contiguous with said core layer sub-regions [holes]." The Examiner has failed to properly construe the independent

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claims to require these structures or interrelationships and has ignored three of the four required structures or structural interrelationships in Applicants' independent claims.

2. The Examiner fails to identify where Applicants' claimed structures or structural interrelationships are shown or taught in the prior art references

As noted above, each of Applicants' claims when properly construed, requires (1) $n_{\text{rods}} > n_{\text{core}}$; (2) " $n_{\text{core}} > n_{\text{cladding}}$ "; (3) "said cladding layer located adjacent said core layer" and (4) "said cladding layer sub-regions [holes] contiguous with said core layer sub-regions [holes]."

The Examiner alleges in the "Response to Arguments" on page 5 of the Final Rejection, that Sigalas in Figure 10 (column 7, line 43) that the core material would be GaAs and the cladding material later oxidized to Al_2O_3 which, as the Examiner contends, would meet the claim requirement (2) above for n_{core} greater than n_{cladding} . However, the Examiner ignores the other claim requirements. In Sigalas, the equivalent to Applicants' claimed "sub-regions" would be the etched gaps surrounding the cladding layers 103 and 105, and as per the planarization step discussed in conjunction with Figure 9, would result in the surrounding etched gaps being filled with a planarizing material, such as polyimide. Such a structure would not meet the claim requirements of n_{rods} being greater than n_{core} and certainly not by an amount greater than 0.1.

Moreover, the Examiner does not address the issues of the Sigalas reference failure to teach the n_{rods} and n_{core} relationship in combination with the " $n_{\text{core}} > n_{\text{cladding}}$ ", "said cladding layer located adjacent said core layer" and "said cladding layer sub-regions [holes] contiguous with said core layer sub-regions [holes]" interrelationships.

As a result, any rejection of the independent claims based upon the Sigalas reference fails because all recited claim limitations are not shown or taught as a combination in the Sigalas reference.

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3. There is no support for the new rejection of independent claim 16 over the Cotteverte reference

The Examiner does not point out how or where Cotteverte discloses the limitations set out in independent claim 16, i.e., a method of filling holes where n_{rods} is greater than n_{core} by an amount equal to 0.1. In fact, the Examiner admits that Cotteverte "does not explicitly teach the refractive index of the filling material being greater than that of the core layer." (Final Rejection, page 4, new rejection, third paragraph) and this admission is very much appreciated.

While the Examiner attempts to meet his burden of establishing a *prima facie* case of obviousness, he does not point to any teaching in the prior art suggesting that one would wish to modify the Cotteverte method by utilizing a refractive index (n_{rods}) which is **greater than** the refractive index of the core layer (n_{core}). The Examiner attempts to overcome this glaring deficiency in the Final Rejection by suggesting that Cotteverte teaches that the holes can be filled with "a refractive index that is **substantially different** than the bulk photonic crystal material" (column 8, line 43). This does not say that one is greater than the other, only that it is substantially different. Where the Examiner believes there is any teaching that requires the n_{rods} to have a greater refractive index than the refractive index of the core is not seen in the Cotteverte reference.

The Examiners contention that having the (n_{rods}) **greater than** n_{core} would be obvious to one of ordinary skill in the art is simply wishful thinking on the Examiner's part and is completely unsupported in the Cotteverte reference. As a result of the above, Cotteverte simply does not support the Examiner's rejection of claim 16 and claims dependent thereon.

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SUMMARY

The Examiner in the Final Rejection has failed to properly construe the independent claims as requiring a combination of four structures or structural characteristics (or equivalent method steps), i.e., (1) n_{rods} being greater than n_{core} by 0.1; (2) n_{core} being greater than n_{cladding} ; (3) "said cladding layer located adjacent said core layer" and (4) "said cladding layer sub-regions [holes] contiguous with said core layer sub-regions [holes]." The Examiner correctly alleges that one of these claimed interrelationships (2) is taught in the Sigalas patent but ignores the other three ((1), (3) & (4)) in the unsupported rejection under 35 USC §102. The Examiner admits that Cotteverte does not teach interrelationship (1), makes no allegation that interrelationships (2), (3) & (4) are shown in Cotteverte, and ignores the Federal Circuit's requirements for establishing a prima facie case of obviousness, i.e., that the claimed elements must be shown in at least one reference.

As a result of the above, there is simply no support for the rejection of Applicants' independent claims 1, 16, 19, 22, 26 and 30 or claims dependent thereon under 35 USC §102 and/or §103. Applicants respectfully requests that the Pre-Appeal Panel find that the application is allowed on the existing claims and prosecution on the merits should be closed.